# TREATMENT OF SPINAL CURVATURE

BY

# SILICATE OF SODA JACKET.

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Case VII*.—July 23d, 1878, Miss ——, æt. 25, white, teacher, height 62 inches, fair skin, brown hair and eyes. Related the following history: She has suffered from her back for 8 years, and for a greater part of the time has worn a mechanical support. The last one was made at the Institute for Cripples, Broad and Arch streets, Philadelphia, where she had been treated through the year previous to July 4, 1878. It weighed four and one-half pounds. Her menses had not appeared for one or two periods, while a troublesome cough annoyed her. For relief, she slept upon her face. From all these causes of physical distress, the School-Directors concluded to dismiss her.

Examination revealed bulging of the right scapula, with dropping and recedence of the shoulder, and the left shoulder was pushed forward; also the breast. When seated, she constantly changed her position, because of pain. Figure 1, copied from a photograph, shows the amount of curvature before I be-

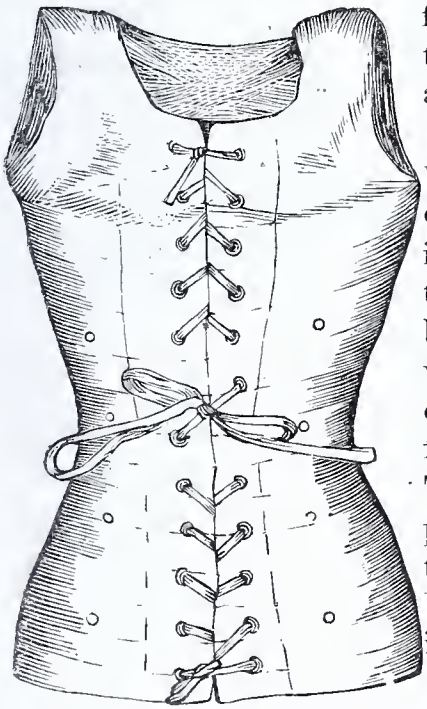
*Cases, before this, illustrating the use of the silicate of soda jacket, were published in the *Med. and Surg. Reporter*, Philadelphia, April 13, 1878.

gan treatment. A jacket of muslin, wet with silicate of soda (sp. gr. 1.2755, temp. 62°F.), was applied while she was suspended. This gave the support so much needed; she became free from pains, walked easily, and resumed her position as teacher so efficiently, that the School Board selected her principal of the building. She preferred, however, to retain her own school, because it demanded less activity. Her habit became regular, the cough disappeared, and she slept comfortably upon her back. She recovered so much that it was requisite to remove a wedge-shaped piece from the part of the jacket resting upon the right scapula, bringing the edges together. Her deformity was much corrected; she also repeatedly used the extension apparatus.

On the 26th December, 1878, with the assistance of Hugh Hamilton, M. D., another jacket was placed on the patient made with silicate of soda. At present, she feels comfortable, performs her duties, and enjoys her pleasures unrestrained. Her height is sixty-three inches; weight and color improved. Unless one was quite observant, her disease would on-be suspected. The improvement of the curvature is shown in Figure 2.

Having received a number of communications concerning a more detailed statement of my use of silicate of soda, I wish to state the method to be as follows: I procure between three or four yards of *unbleached* muslin; from it cut two patterns, of a bodice of two backs and fronts (like a tailor cuts a coat), long enough to extend to a little below the pubes and hip joint—the person being clothed in a skin-fitting shirt, seated upon a stool higher than an ordinary chair. The back pieces of one of the jackets are laid on, wetted with a solution of silicate of soda—care being taken that the edges of the back meet at the top and bottom. They are so cut as not to meet along their entire length—thus leaving an elliptical opening, so shaped as to fit the normal curves of the back. The fronts are then put on; the

soda solution causes these pieces to adhere sufficiently. Braces of tin, cut to the depth of an inch or more, are placed along the edges long enough to reach from the axillæ to over the crests of the ilii, and about three and a half inches wide at top, and five at the bottom, so that the double curve of the body may be followed. They are all fastened to the bodice by a covering of muslin coated with soda solution. Other braces, an inch wide, and extending from the junction of the fourth rib with the sternum to near the symphysis pubes, are seeured in like manner.



The patient is now suspended upon the admirable apparatus of Sayre, and a three-and-a-half inch bandage, passed about the trunk from above downward, being coated, as it advances, with silicate of soda. The second bodice is applied like the first one was, without braces. The individual is then let down, placed on his back, remaining there for four or five hours. When the jacket is removed, it is in a semi-hard condition.

When taking the jacket off, the patient is seated upon a stool as before, the edges are trimmed off around the pelvis, a suffieient amount removed from the arm-pits and from the breast as desired, while the back demands the discretion of the physician; it is then opened in front from below upwards. Should there be any lap, it should be cut off, except half an inch. The jacket being removed, the edges of the inner bodice are raised along the back, and the elliptieal opening spoken of cut out, the edges brought together with pieces of tin passed from within outward through slits made with a one-quarter inch chisel; a strip of tin the length of the jacket, one or two inches wide, is put inside upon this seam, neatly covered with

a strip of muslin wet with the soda solution. Dry by a warm stove long enough to harden; keep the shape as much as possible. After it has hardened, pound over a rounding block, line with strips of muslin, and bind the edges with it, cut bias, both wet with soda solution. Punch holes from within outward at regular intervals for exhalations, and set eyelets for lacing; coat the whole with soda solution, and dry carefully.

Place the jacket upon the suspended patient; put him on his back for a little while; he rises relieved of his pain; soon becomes accustomed to his new garment; resumes his duties, and improves accordingly.

The silicate of soda is very inexpensive; the quantity used is from two to three pints of sp. gr. 1,2755 in summer, and a little higher in winter. The cost is only thirty-five cents; the muslin but five cents a yard; the time of application upon the patient thirty to forty minutes.

Abundant porosity is obtained by the holes punched; and its easy removal permits the body to be cleansed when necessary, say every two or three weeks. The weight is from two and three-quarters to three and one-quarter pounds for adults; for children, the weight is much less, varying with the age.

It is more troublesome than plaster of Paris to finish, but its durability compensates for all labor expended upon it. In my Cases I and III,* the patients traveled hundreds of miles, when, previous to treatment, they could not leave their rooms with ease.

*Op cit.